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ABSTRACT

The author argues for an epidemiology data base (which looks at cognitive, aptitude, family condition, school condition, and personal characteristic variables) as a strategy for research with learning disabled (LD) adolescents and young adults. An operational definition, advantages, and problems of this type of research strategy are outlined. A synopsis of the initial findings of the Institute for Research in Learning Disabilities is presented. Among the findings were that the difficulties which LD adolescents encounter with self awareness appear to be more debilitating than their social relationships. (Author/SB)

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INSTITUTE FOR RESEARCH IN LEARNING DISABILITIES
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Emphasis on Adolescents and Young Adults

A RESEARCH STRATEGY FOR STUDYING LEARNING DISABLED ADOLESCENTS AND YOUNG ADULTS

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Abstract

Several major issues still persist in the field of learning disabilities after nearly two decades. Researchers and teachers alike continue to search for appropriatre identification procedures and effective interventions. While these problems are central to research of LD populations in general, unique problems related to adolescents and young adults which researchers must consider in designing interventions are discussed. These unique factors associated with the condition of learning disabilities in adolescents and young adults requires the development of a comprehensive and systematic research strategy.

The authors present an argument for an epidemiology data base as a research strategy. An operational definition, advantages, and problems of this research strategy are outlined. In addition, a brief synopsis of major findings from the IRLD's epidemiology research on LD adolescents and young adults is presented.

A RESEARCH STRATEGY FOR STUDYING LD ADOLESCENTS/YOUNG ADULTS

Almost two decades have passed since Kirk (1962) proposed a definition of learning disabilities. Since that time, there have been many suppositions about appropriate identification procedures, instructional options, and evaluation systems. Two major interactive issues have persisted: (1) How does one identify LD students, and (2) What intervention programs best serve persons identified as learning disabled? According to Cruickshank (1977) these problems persist, in part, because the field of learning disabilities "possesses an inadequate research base" (p. 58). Furthermore, "there are absolutely no adequate data of either an epidemiological or demographic nature to provide a base for adequate programming."

Cruickshank's view of the learning disabilities field has implications for research. First, researchers who would use LD students as subjects are forced to select from a variety of definitions used by state departments of education, few of which include specific operational criteria. Thus, the continuing search for explicit criteria in a useful and commonly accepted definition is the foremost research need as the status of learning disabilities is assessed at the present time.

The problem of designing appropriate interventions for LD adolescents is highly related to the definitional problem and magnified by the high incidence figures resulting from non-operational population definitions. Using the classification of learning disabilities for underachievers in general, or even for those learners who are not achieving in a single academic subject, has reduced the usefulness of research on interventions for a target group with specific learning attributes. Who are the learners for whom a specific method or material or service delivery system may be said to be

effective? The inability to generalize many research findings can be directly traced to problems of definition and prevalence.

While the problems discussed above are central to research of LD populations in general, there are some unique problems related to adolescents and young adults which the researcher must bear in mind in conceptualizing research on interventions for this population. Among these are the following. First, the demands of the curriculum in secondary schools or job requirements in employment settings are significantly different and more complex from the demands placed on these students in elementary settings. Second, in that there are many variables traditionally associated with the condition of LD, it seems reasonable that the complexity and interaction of these variables increase as the adolescent moves from school to non-school settings and as the number and variety of his/her social groupings increase. Thirdly, there is very little knowledge about the conditions confronting the LD adolescent and young adult in non-school settings and the degree to which these individuals can cope with non-academic circumstances. Fourth, the effect of previous intervention efforts on the student's behavior and motivation to engage in additional remedial instruction is central to determining strategies that will have an impact on the student's performance in secondary school and employment settings. Finally, given the limited instructional time left for secondary students, instructional plans must be designed to address deficit areas that have the highest probability of being impacted in a relatively short period of time.

The complex nature of the condition of learning disabilities and the unique features of the conditions and the environment facing the LD adolescent and young adult demonstrate the need for systematic research on the population. Most research efforts on LD populations have centered on the attributes of

the learner alone, and thus, have focused upon the intrinsic behavioral or cognitive causes of the disability. Such attempts have resulted in limited breakthroughs regarding population identification and intervention development. A potentially more productive research approach would be one that considered not only learner attributes, but environmental factors as well, as a means of describing and understanding the learning disabled adolescent and young adult. Lewin's (1935) formulation to explain human behavior, B = f(PE), where B = behavior, P = person, and E = environment, may be a productive means of conceptualizing and researching learning disabilities in older populations. Through such an approach, learning disabilities would be viewed as a condition which results from a complex interaction between the learner and the environment.

The resolution of the basic issues outlined above is, in part, contingent upon the application of a research strategy that is both comprehensive and systematic in nature. The unique factors associated with the condition of learning disabilities in adolescents and young adults is confounded when one considers the fact that a similar array of problems are encountered by older-aged underachieving or mildly mentally retarded individuals. Thus, the purpose of this paper is to outline a research strategy that seems highly appropriate to investigating the complex array of problems outlined above. What we argue for in this article is the development of a long-term research strategy which has the potential of making a valid and necessary contribution to the field of secondary handicapped education generally and secondary learning disabilities specifically. In particular, it is the contention of the authors that the development of an epidemiological data base is a necessary component in the study of learning disabilities in older populations.

The argument for an epidemiology data base as a research strategy will be

organized as follows. First, an operational definition of this strategy will be given as it is being applied by the University of Kansas Institute for Research in Learning Disabilities in its study of LD adolescents and young adults. Secondly, the unique advantages and problems associated with this research strategy will be outlined. Finally, a brief synopsis of major findings from our epidemiology research on LD adolescent and young adult populations will be presented. These data will show how our understanding of this population as well as our ability to make decisions relative to intervention research directions and emphases is enhanced through this research.

An Operational Definition of an Epidemiology Data Base

The epidemiological research approach has traditionally been associated with the medical field and the study of disease. This health-centered approach requires that the investigator view a person's characteristics and behaviors in a descriptive way and as they are associated with settings and conditions that affect the prevalence of a particular disease. Mercer (1975) has applied this approach to the study of mental retardation and defined the epidemiological study of retardation as one which "discovers which persons are holding the status of mental retardation in various social systems of the community and studies their characteristics. It studies how the normative structures of various subsystems vary and thus influence the number, characteristics, and distribution of mental retardation in the community" (p. 53).

The University of Kansas Institute for Research in Learning Disabilities (IRLD) has chosen to apply this epidemiological approach to the problem (condition) of learning disabilities in adolescents and young adults. The adopted approach has involved the collection of a large body of information about this population covering such areas suggested by the literature as being important. Among the variables collected are cognitive and aptitude variables,

family conditions variables, school condition variables, and personal characteristic variables. But these data are not meaningful in a vacuum, they must be compared to similar data from other populations in order to give us a vivid picture of the learning disabled, adolescent population. For this purpose, the IRLD has collected data on two comparison populations: a low achiever group and a normal achieving group. The low achievers have been defined as those students (1) not receiving special educational services, (2) failing at least one academic subject, and (3) scoring below the 33rd percentile on group administered achievement tests. This group was deemed an important comparison group for school personnel faced each day with choosing which students out of those who are failing should receive LD services. Thus, an epidemiological comparison of low achieving and LD adolescents should aid in the resolution of the crucial issue of identification. It can also provide critical information on how LD adolescents are "special" and what special educational services should be designed for them. The normal achievers have been defined as those students who (1) are not receiving special educational services, (2) are not failing any subjects and (3) score above the 33rd percentile in achievement. The normal achievers serve several purposes as a comparison group. First, their responses can be used to validate our measures, showing that responses at the upper end of the scale are possible. Secondly, they can provide a "measuring stick" to which we can compare the responses of LD adolescents and low achievers. The responses of the normal achievers are at a minimum what we can "shoot for" in devising interventions for the LD adolescent and other low achievers.

The emergent experimental literature on learning disabled populations is limited in large measure because most results have come from the simple procedure of comparing a learning disabled group against a normal comparative group. Comparisons within and between diagnostic groups (e.g., learning disabled and low

achievers) are rare. When research is designed to compare different diagnostic groups rather than one diagnostic group with a normal group many of the variables which have been thought to specify unique attributes of the diagnostic group often disappear.

Thus, the epidemiological study of the IRLD involves the collection of data concerning a large number of variables on three populations of students and the conditions which surround these students. With proper storage and use, these data should provide keys to the problems of identification and intervention with LD adolescents. In addition, an epidemiological data base can offer other advantages to the field. A data base can be used, for example, to provide information pertinent to current and future policy decisions. Data can be provided about such topics as where LD adolescents go after they leave high school, what are the differences in their achievement levels before and after special education intervention, and how are students who are being served in LD programs different from those served five years ago. Thus, an epidemiological data base cannot only provide valuable keys to identification and intervention issues; it can also allow for the collection of longitudinal data useful in the evaluation of programs. Finally, a data base can help researchers generate new research questions. As more data are collected and systematically manipulated, relationships among these data should point the way toward new lines of research, new hypotheses, and hopefully, to new ways of resolving issues in the LD field.

In spite of its advantages, the creation of an epidemiological data base is not without its problems, however. The collection of data pertaining to a relatively large number of students is very time-consuming and costly. A large staff of research assistants has been trained in skills ranging from public relations work through data collection testing and computer data

entry. Important here is the factor of quality control, such that each research assistant provides data in a form similar to others while pleasing parents, students, and school personnel. It has been necessary to recruit large school districts to participate in the formation data base at a time when school personnel are interested in providing services to special education students and not particularly interested in the further testing of those students. The commitment of time and energy from each school involved has been great. We have needed their help in terms of identifying the students, locating information in student files, locating students for testing sessions, and filling out questionnaires on individual students. Each helpful person deserved and has received special recognition from our staff in the form of letters for their personnel files.

Federal guidelines have required that parental and student consent be obtained from each of the approximately 100 participants. This undertaking alone has accounted for at least a quarter of the time spent in the data collection phase. The organization requirements of monitoring and maintaining a staff which is testing and collecting data on 1000 students, communicating with each student's parents and at least two of his/her teachers, and dealing with the administrations of 30 schools have been monumental. Timelines, flow charts, and organized data collection materials have been used to facilitate the task.

Finally, once the data are collected they must be organized, handled, and stored in such a way as to allow systematic and varied manipulation. Such a data base must be tied to and supported by an up-to-date, large-scale computer facility with staff members familiar with and skilled in the care and feeding of a large data base.

In summary, if resolution is to be achieved on the numerous identifi-

cation and intervention concerns of LD adolescent and young adult populations, systematic research efforts must be mounted that consider not only the unique attributes of the learner but also the conditions and setting demands on the LD individual. Interventions will have a greater probability of impacting this group if they are designed in light of those variables which best define the mildly handicapped individual in interaction with his/her environment. An epidemiological approach is not viewed as the only tact to addressing the many questions related to older aged handicapped but it is viewed as a sound alternative that has the potential of providing precision and consistency by the establishment of a comprehensive data base from which subsequent research and programming decisions can be made.

Synopsis of Initial Findings

Initial findings from our epidemiology data base on LD adolescents and young adults permits some preliminary generalizations to be made. These findings represent the comparison of two diagnostic groups (LD and low achievers) and not the comparison of one diagnostic group (LD) and a normal population. Limitations of such generalizations are clearly acknowledged; however, these statements represent the profile that is begining to emerge of the LD adolescent from our data base. It is interesting to note that many of the assumptions made about this population are not substantiated by data.

1. Learning disabilities in adolescents is a multi-trait construct with heavy loading on cognitive/academic traits. While the cognitive/academic factor best discriminates learning disabled from low achieving adolescents, no one cognitive/academic variable is sufficiently powerful to identify the condition of learning disabilities. This implies that an additive procedure must be used in identification decisions (Deshler, Schumaker, Alley & Warner, 1980).

2. Many of the previously assumed markers of the condition of learning disabilities have not been substantiated as differentiating variables for LD and low achiever groups (e.g., hyperactivity, prenatal difficulties, predominant social deficits) (Alley, Deshler, Warner & Schumaker, 1980).
3. The difficulties LD adolescents encounter with self awareness appears to be more debilitating than their social relationships. Specifically, our epidemiology data suggests the following: LD adolescents are not social isolates in classroom situations; LD adolescents performance on specific social skills in role playing situations (although low) is about equal to peers; LD adolescents can learn social skills to criterion in a relatively short time, but they experience difficulty in generalizing to new situations whereas their peers do not; and LD adolescents appear to be treated the same as non-LD adolescents but they perceive that they are treated differently (Schumaker, Sherman & Wildgen, 1980).
4. While LD adolescents respond favorably to structured instruction, their generalization of skills across time, settings, and conditions appear to be limited (Seabaugh & Schumaker, 1980).
5. The identification of young adult populations who have learning disabilities in non-school settings is much more difficult than the identification of adolescents with learning disabilities in school settings. The types of factors that define the condition of learning disabilities appears to be different as the demands of the setting change (White, Warner, Schumaker, Alley & Deshler, 1980).
6. The executive functioning skills (e.g., monitoring, goal setting, self-management. etc.) of LD adolescents appear to be limited (Tollef-

son, Tracy & Johnsen, 1980; Warner, Schumaker, Deshler & Alley, in preparation).

The challenge of meeting the academic and life adjustment demands of LD adolescents and young adults is, in large part, contingent upon having a solid data base from which to make decisions. The research strategy outlined in this paper is viewed as a step in that direction.

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